

SYSTEMS AND METHODS FOR PRECURSOR CANCELLATION  
OF INTERSYMBOL INTERFERENCE IN A RECEIVER

## ABSTRACT OF THE DISCLOSURE

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There is disclosed, for use in a receiver receiving from a transmission channel an incoming stream of known symbols and unknown symbols distorted by intersymbol interference (ISI), an apparatus for reducing a precursor ISI signal. The apparatus for reducing the precursor ISI signal comprises: 1) a decision feedback equalizer for receiving the incoming stream of distorted known symbols and distorted unknown symbols and generating a sequence of detected symbols; and 2) a known symbol generator for generating a copy of a first known symbol prior to an estimation of the first known symbol by the decision feedback equalizer, wherein the decision feedback equalizer uses the copy of the first known symbol to reduce a first precursor ISI signal in a second symbol transmitted prior to the first known symbol.